L I V E S
W O R K I N G
P A P E R
2 0 1 3 / 23

TITLE

Vulnerability and Growth. Developmental dynamics and differential effects of the loss of an intimate partner in the second half of life.

Research Report

Authors

Sara Hutchison
Pasqualina Perrig-Chiello
François Höpflinger
Davide Morselli
Eva van Rhee
Dario Spini

http://dx.doi.org/10.12682/lives.2296-1658.2013.23
ISSN 2296-1658

FNSNF
Swiss National Science Foundation

The National Centres of Competence in Research (NCCR) are a research instrument of the Swiss National Science Foundation.

LIVES
Swiss National Centre of Competence in Research

Authors

Hutchison, S. (1), Perrig-Chiello, P. (1), Höpflinger, F. (2), Morselli, D. (3), van Rhee, E. (3) & Spini, D. (3).

Abstract

This working report gives an overview of the Individual Project 12 "Vulnerability and growth. Developmental dynamics and differential effects of the loss of an intimate partner in the second half of life" of the Swiss National Centre of Competence in Research LIVES led by Pasqualina Perrig-Chiello, University of Bern. This longitudinal and interdisciplinary project aims at examining vulnerability and personal growth after a critical life event, namely the break-up of a long-term intimate relationship in the second half of life, be it due to divorce or due to bereavement. In this report we present details about the rationale, the main research questions, the hypotheses and the methods of the study. Special attention is given to the methodological approach. The authors give a first sample description and report on the validity of the data by comparing the sample with Swiss Labour Force Survey and Swiss Health Survey data.

Keywords

Long-term marriage | Divorce | Bereavement | Design| Methods

Authors' affiliations

(1) University of Bern (2) University of Zurich (3) University of Lausanne

Correspondence to

pasqualina.perrigchiello@psy.unibe.ch

LIVES Swiss National Centre of Competence in Research

LIVES Working Papers
University of Lausanne
Bâtiment Géopolis ▪ 1015 Lausanne ▪ Switzerland
T. + 41 21 692 38 38
F. +41 21 692 32 35
contact@lives-nccr.ch

Table of contents

1. Rationale, research questions, and theoretical contextualisation of the study[1]

1.1. Introduction

The research project presented here focuses on psychological vulnerability, which is conceptualized as a state resulting from an insufficient or dysfunctional psychological adaptation (regulation of well-being, ability to take the right decisions in favour of one's own best interest) to critical life events due to lacking psychological resources, and/or social and economical resources. In this IP we focus primarily on the critical life event of the break-up of an intimate partnership in the second life half, either through separation, divorce, or bereavement, which is known to be one of the most stressful life events with a high potential for vulnerabilisation for people of all ages, but especially in middle and older age (where people have to struggle with multiple familial tasks and/or age-related resource losses). In IP12 different indicators of vulnerability are assessed at different phases after the break-up or loss cross-sectionally as well as longitudinally (using retrospective data such as biographical transitions especially related to marriage; current life satisfaction, subjective health and health behaviour, depression, social participation, future perspectives).

IP12 is not only interested in vulnerability, but also in personal growth. Even though traditional research has focused on negative trajectories of vulnerabilisation after critical life events, recent research has begun to explore the determinants of positive outcomes (Joseph & Linley, 2005). We know from literature that for most individuals the break-up of an intimate relationship is stressful and has the potential to be psychologically and socially destabilizing. However, the way of coping with it and especially the long-term outcomes are very different (ranging from increased vulnerability to stabilisation and growth). The adoption of a life-course perspective (with a prospective and retrospective approach) allows us to make a contribution to a better understanding of the trajectories leading either to vulnerability or growth after separation, divorce and bereavement. Focusing also on past transitions and marital history we have the opportunity to shed light on the question of whether vulnerability is due to causal chain effects or is rather an enduring biographical continuity (e.g. do negative early life experiences have a direct and enduring influence on later life's health and well-being or does early life stress have an indirect effect by inducing a series of further adversities which may alter later life outcomes)(Kuh & Ben-Shlomo, 2004).

1.2. Aims of IP12

From a more general viewpoint, this project aims

a) To provide valid and generalizable data on a neglected research topic in Switzerland.
b) To combine vulnerability and growth-oriented research lines with crisis and growth models in an innovative way. Due to its longitudinal approach, it becomes possible to track the trajectories of divorce and bereavement leading to vulnerability or growth.

c) Beside its contribution to advancement of social and behavioural science, this research will provide a solid knowledge base for practitioners from different fields (counselling, clinical practice, teaching, social policy).

More specifically the scientific goals are:

- To initiate a prospective study, where men and women recently divorced and widowed after a long-term marriage are compared to long-term married persons (controls) (data collection 1st wave: 2012; second wave planned 2014).
- To investigate the reasons and circumstances of bereavement, separation and divorce, i.e., the quality of the relationship, marital and sexual satisfaction, agency (initiator or reactor), perceived level of anticipation and control.
- To analyse the determinants that lead either to vulnerability or growth after experiencing the break-up of marriage or partnership. These analyses will take into account the following individual resources: past critical life events and life trajectories (using a life calendar); psychological resources (personality; coping style; character strength; personal, familial, cultural and spiritual values; control beliefs; early childhood experiences/attachment; experience of silent and age-normed transitions), social resources (children, partner, parents, friends), financial resources and SES.
- To examine the process of psychosocial adaptation to the critical life event and the short-term and long-term outcomes: psychological well-being, physical well-being (subjective health, health complaints, and medication intake), social well-being (emotional and social loneliness, quality of contacts) and financial well-being in the different phases of coping. We will examine the first phase of loss (phase of destabilization, i.e. first two years), the phase of adaptation (2-5 years after loss) and the phase of stabilization (5> years after loss).

The middle and long-term scientific goals of the study are (2013/2014 and beyond):

- Continuing the Prospective Study (waves with 2-year intervals).
- Dissemination of research findings (publication in national and international journals, presentation at national and international conferences), and practice (publications, presentations, training, teaching).

1.3. Main research questions, theoretical contextualisation, and hypotheses

The loss of an intimate partner is a major challenge and a critical life event in middle and old age. Even though bereavement has been a prominent research topic in gerontology and psychology, much less is known about marital disruption in later life, since most research was carried out with younger age groups (Pudrovska & Carr, 2008). Considering the fact that the divorce rate in later years has risen dramatically in Switzerland[2] as elsewhere in Europe over the last two deceades, this research gap is more than regrettable. There is also the fact that most research on this topic has been carried out in cross-sectional studies and seldom from a longitudinal and interdisciplinary perspective. I.e. research is lacking on the question of the long-

term differential impact of this critical life event and its interaction with psychosocial and contextual resources on the process of psychosocial adaptation in older age. And finally, traditional research has mainly focused on negative trajectories of vulnerabilisation due to loss experiences, but has neglected to explore determinants of possible positive effects such as personal growth[3]. It is known from research that there are large individual differences with regard to psychological adaptation due to intra- and interpersonal resources (resiliency, quality of ex-partnership, etc.), divorce circumstances (mutual consensus, sudden or expected) and time since separation (not since divorce!). IP12 aims at contributing to close these research gaps.

Against this background the aim of this project is to study antecedents and outcomes of separation[4], divorce, or bereavement after a long-term partnership. IP12 is a prospective study with two age groups (one in middle, the other in old age), two different loss-groups (one within the last 24 months, the other between 2-5 years), and a group of married people as controls, using a multi-method and an interdisciplinary (psychology, particularly developmental and social psychology, sociology) approach. A first assessment took place in 2012, in 2014 a second one is planned. Data analyses concentrate on descriptive analyses as well as on hypotheses testing. The following main research questions concern the data of the 1st wave (cross-sectional data):

Block I (exploratory research questions): What are the circumstances, reasons, and the short- and long-term outcomes of separation, divorce and bereavement in middle aged and old persons? What are the short- and long-term psychological, social and economic outcomes of this critical life event? How do psychological well-being (mastery, life satisfaction, 'sense of life'), physical well-being (subjective health, health complaints, medication intake), social well-being (emotional and social loneliness, quality of contacts), and financial well-being vary through different phases of adaptation to marital breakup? What are the individual differences in terms of age, gender, SES, and personality?

Block II (hypotheses testing questions):

1) What are the patterns of psychological adaption (in terms of life satisfaction, depression, health behaviour, social participation, personal growth, and future time perspectives)
   a) to separation and divorce after a long-term partnership in persons 40-65 years old?
   b) to bereavement after a long-term partnership in old age (65+) and what are the discriminant variables between these patterns?
2) What are the differences between those persons with a break-up/loss within the last 24 months compared to those who experienced the event 3-5 years ago, and to those who are still married with regard to psychological adaptation and intra- and interpersonal resources? What is the role of separation circumstances and of the time passed since separation for psychological adaptation?
3) What are the differences between long-term married people and people experiencing a break-up of their partnership in terms of psychological, health, and social resources?

4) What are the psychological and social determinants in terms of mediators (stressors) and moderators (protective factors such as individual and socio-economic resources) that lead either to vulnerability or personal growth after experiencing the break-up of partnership?
5) What is the role of age and gender, but particularly of contextual factors and socio-cultural norms with regard to new and positive perspectives for the future and thus the adaptation to the critical event?

We propose for our research a modified and extended view of the crisis-versus-chronic-stress model and the model of divorce-stress-adjustment (Amato, 2000; Lorenz et al., 2006). Marital separation (i.e. the definite point of split-up) is viewed as a biographical turning point, which can be expected and initiated or not, but which in any case has a high probability of creating turmoil and stress. The phase directly after separation can be viewed as a biographical transition, where routines of everyday life are shattered, and where people have to reorganize their life, and take over new roles (phase of destabilisation and adaptation). There is empirical evidence that after this phase of increased psychological vulnerability, a majority of people begin to adapt to the new situation, develop a new routine, and overcome this phase of psychological vulnerability around 2-3 years after the critical life event (Booth & Amato, 1991; Clark & Georgellis, 2010). This phase is followed by a phase of stabilisation where the majority of people is expected to get back to their habitual baseline-level of well-being prior to the turning point (after 3-5 years) (Dupre, Beck, & Meadows, 2009). A minority however is expected to experience growth, and another minority does not recover and remains vulnerable.

Whether the separation or loss turns out to be a temporary crisis (where people recover from their vulnerability) or whether it becomes a chronic stressor (mourning the loss of the partner, depression), depends on the one hand on the available individual resources (moderators). We assume that individuals – based on their intra- (personality, resilience) and interpersonal resources (having children, relatives, friends, new relationship) develop strategies, which allow them to adapt their life perspectives to the new situation in order to bring continuity to their lives and to assure their well-being. But also socio-demographic variables such as age, gender, education and financial resources may have a moderating role on the adaptation to the new status. Beside these factors, the marital quality, the duration of the marriage and the separation circumstances (predictability) also play an important role for psychological adaptation (mediators). We know from literature (Amato, 2010) that initiator-status and having a new relationship has an impact on well-being outcomes, but also the anticipation of the separation, the emotional valence of the event, the time passed since separation, and also the actual quality of relationship with the ex-partner.

In summary it can be said that IP12 raises a timely and relevant topic, and wants to shed light on the open questions around various controversies and research gaps. After having situated here the aims and research questions of our project in the status-quo of research, the methodological outline of the study will be presented in the following section (Section 2): first by giving a description of the sampling procedure, then by presenting the variables and their

operationalization (including information about the internal consistency and distribution of main variables), and finally by informing about data entry and data cleaning. Sections 3 and 4 are dedicated to the description of the sample and the validation of the sample's quality. Section 5 focuses on differences between the samples of the two language regions, and in section 6 a summary and further considerations are given.

2. Methodological outline of the study: sampling, instruments, and procedure[5]

IP12 was designed as a longitudinal questionnaire study, which concentrates on determinants, developmental dynamics and differential effects of marital break-up in the second half of life, be it through divorce or bereavement. The first wave was performed in 2012, and follow-ups are planned every two years with the aim of following the progress of psychosocial adaptation of the loss groups, and of possible changes in the control group of long-term married. The planned sample of 1200 respondents was stratified into cells of equal size by age group (5-year groups), gender (50:50, meaning an oversampling of men older than 60), and marital status (divorced/separated, widowed, married) (see Table 2). It is therefore essentially a quota sample. This design is the method of choice when the data of the total population considered is not known, or when the proportion of men and women with a special characteristic (such as recent divorce or bereavement) is relatively low. Both is the case for recently divorced or widowed individuals in Switzerland (of a population of 7,954,662 Swiss residents in 2011, about 17% were divorced and 12% widowed, compaired to 44% married individuals (SFSO, 2013; see also Table A1 in the Appendix)). To allow for statistically significant comparisons among men and women and age groups, some groups (divorce at older age, bereavement among men) are over-represented. Using a classical sampling – with a proportionate sample – the number of men experiencing bereavement would be too small for any significant comparisons. As reported in Table 2, the planned sample included divorced and bereaved persons in middle and old age, half of them having experienced the critical life event within the last 24 months (peri-loss or vulnerable group), the other half within the last 2-5 years (post-loss or adaptation group). For each age group a control group of long-term married persons of the same age was provided.

Participants were recruited in German and French speaking Switzerland. It was decided to exclude the Italian-speaking part of Switzerland for several reasons: First of all, the addition of another language region would have complicated the processes and increased costs. Secondly, the number of older recently widowed participants that could be obtained from that region would be very small. As the policy of the Federal Office of Statistics (SFSO) is to supply the addresses of a maximum of 5% of a specific population group, this would have yielded very low numbers to analyse in trade for quite an increase in cost. This SFSO policy also caused some cells to not be filled as originally planned in the German and French speaking sample, as the desired number exceeded the 5% limit of the SFSO (mainly widowed men older than 60). Table A1 in the Appendix displays the frequency of bereavement and divorce in the Swiss population.

2.1. Sampling procedure

The Federal Office of Statistics was approached to provide us with a random sample of participants. However, as the population register has only been introduced after 2010, the SFSO was reluctant – for reasons of unclear data protection laws – to provide the addresses of potentially vulnerable persons, namely persons who had experienced a divorce or bereavement in the past two years. In the end, the Federal Office of Statistics supplied us in December 2011 with a random sample of 6'889 persons from all German and French speaking cantons (see Table A2 in the Appendix). 1551 of them had experienced divorce and 1'365 widowhood between 2 and 5 years ago; 3'974 belonged to the control group of married individuals. Participants who had experienced a loss more recently (in the last two years), had to be recruited differently (advertisements newspapers, radio interviews, internet platform), since the SFSO did not provide us with these addresses due to ethical concerns. The participants whose addresses we had received through the Federal Office of Statistics (N=6'909) were contacted in a first mailing with an information letter (see Appendix), the questionnaire and a small gift (a pen with the NCCR logo)[6]. The return rate after this first contact was 19%. Non-respondents were contacted again four weeks after the first mailing (with a reminder letter without questionnaire, 8% return rate), and in case of continued non-response a third time (with a reminder letter and a questionnaire, 10% return rate). After the third contact, 2'204 questionnaires had been returned overall (Table 1), resulting in a response rate of 32%. Widowed men had the highest response rate overall (34%), followed by divorced women (33%), married women (29%), widowed women (28%), married men (26%), and finally divorced men (23%). When analyzing the return rates by age and gender, results show that old widowed women (85-89 years old) had the lowest return rates (9%), followed by the oldest group of divorced women (65-69 years old, 15% return rate). The detailed return rates by age and gender are displayed in Table A3 in the Appendix.

Table 1: Number of contacted persons (addresses supplied by the SFSO) and resulting participation

	Nr of contacted persons	Nr of resulting participants	Return rate (%)
1st contact	6889	1289	19
1st reminder	5548	448	8
2nd reminder	4744	467	10

For the other group, which had to be recruited by advertisements, 715 people signed up in response to the various calls in newspapers, on the internet and on the radio. All participants had the options of filling out the questionnaire on paper or online. Overall, 614 persons chose the online version. Paper questionnaires were returned by means of a preaddressed, post-paid envelope. 620 individuals (87%) of the people who had signed up in reaction to direct recruitment returned a filled out questionnaire.

All in all, the data of 2'856 persons was gathered and entered into SPSS, of which 2761 fulfilled the criteria for our study (participants between the ages of 40 and 89, either married, separated, divorced or widowed). Table 2 shows the planned as well as the actual sample. Originally it had been planned to include only participants who had lost an intimate partner (by separation, divorce or bereavement) within the past five years. However, as a great number of persons participated who had experienced such an event longer ago, we decided to include these data in the analysis, as it could yield useful information on the longterm effects of separation, divorce and widowhood. As can be seen, the filling of cells is uneven. For example, there is an abundance of female divorcees, while the cells with recently widowed participants (especially men) could not be filled as desired. Here some very hypothetical explanations: One reason for this may be that the age range of the widowed participants (60-89) encompassed much older age groups than the age range of divorced participants (40-69). Older people may have fewer resources at their disposal (e.g. on average lower education, worse eye sight), which may have led them to decline participation. Also, older people tend to be more careful in general and also more private. Another reason may be that in the case of divorce, the predominant feelings are often anger and hurt, leading to people speaking out, whereas in the case of bereavement, the predominant feeling is sadness, which tends to make people withdraw instead of sharing.

Table 2: Planned and actual sample

	Planned Sample										Total
Age	40-44 f/m	45-49 f/m	50-54 f/m	55-59 f/m	60-64 f/m	65-69 f/m	70-74 f/m	75-79 f/m	80-84 f/m	85-89 f/m	f/m
Married	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	500/500
Divorced											
<2 years	20/20	20/20	20/20	20/20	20/20	20/20					120/120
2-5 years	30/30	30/30	30/30	30/30	30/30	30/30					180/180
Widowed											
<2 years					20/20	20/20	20/20	20/20	20/20	20/20	120/120
2-5 years					30/30	30/30	30/30	30/30	30/30	30/30	180/180
Total	100/100	100/100	100/100	100/100	150/150	150/150	100/100	100/100	100/100	100/100	1100/1100
Grand Total	2200										2200

	Actual Sample 1st wave 2012										Total
Age	40-44 f/m	45-49 f/m	50-54 f/m	55-59 f/m	60-64 f/m	65-69 f/m	70-74 f/m	75-79 f/m	80-84 f/m	85-89 f/m	f/m
Married*	69/44	58/41	70/36	54/45	52/54	72/54	73/66	52/57	46/56	35/51	581/504
Divorced											
<2 years	57/14	81/29	63/30	47/16	35/18	13/9	5/2	1/4	0/0	0/0	302/122
2-5 years	49/25	53/41	44/27	54/33	30/26	12/28	0/2	0/0	0/0	0/0	242/182
> 5 years	16/13	15/20	14/20	22/19	20/25	10/16	7/15	5/10	3/3	2/4	114/145
Widowed											
<2 years	5/0	2/1	6/1	7/3	19/3	19/3	12/5	11/1	7/5	6/3	94/25
2-5 years	1/0	2/0	2/0	9/2	39/27	50/33	40/29	42/39	27/40	11/25	223/195
> 5 years	1/0	0/1	1/1	3/0	1/1	2/2	0/1	1/4	2/6	1/4	12/20
Total	198/96	211/ 133	200/ 115	196/ 118	196/ 154	178/ 145	137/ 120	112/ 115	85/ 110	55/87	1568/ 1193
Grand Total	2761										2761

* and never experienced a marital break-up (divorce or bereavement)
Note: 3 participants did not state their gender. Gray shading indicates data obtained from the Swiss Federal Statistics Office.

Another important point to note about the numbers in Table 2 is that the married participants whose addresses were supplied by the FOS are currently married, but could have experienced a loss earlier in their life. To avoid this issue, only married individuals who have never experienced a divorce or a widowhood were used as controls in the actual sample. 95% of these participants have been married 10 years and longer.

2.2. Variables and assessment (questionnaire)

The questionnaire comprises standardized test instruments and original items developed by the IP 12 team and is structured in eight topical sections. Sections A, B, C and E were filled out by all respondents, section D by all respondents who were currently in a relationship, section F by participants who had experienced a divorce, and section G by persons who had experienced a bereavement in their previous or last relationship. Section A (9 items) contains socio-demographic information such as date of birth, gender, geographical living context, education, marital status, employment status, financial satisfaction, origin, and confession. Section B (18 items) focuses on psychological, and physical well-being, social activities and biographical information. Section C (4 items) assesses the intrapersonal resources, namely personality, resilience, hopelessness, continuity of self. Section D (13 items) asks for general information concerning the current intimate relationship, but also specifically for satisfaction with partnership and sexuality, and marital co-development. Section E (1 item) inquired whether participants had experienced the loss of a long-term intimate partner over the life span. This section served as a filter, directing the participants to the next appropriate section of the questionnaire. Section F (33 items) was only

filled out if the participant had experienced a separation or divorce from a long-term partner. It inquires among others about the duration of partnership, the emotional valence and the expectedness of the separation, the initiator of the separation and divorce, the reasons of separation and of divorce, satisfaction with ex-partnership, coping strategies to overcome the loss, mourning, and personal growth. Section G (13 items) was only filled out by bereaved individuals. Analogous to Section F it inquires among others about the duration of partnership, the emotional valence and the expectedness of the death, coping strategies to overcome the loss, social support, mourning, and personal growth. Table 3 gives an overview of the different sections of the questionnaire, namely the assessed variables, their operationalization and the source.

A first version of the questionnaire was pretested at the beginning of November 2011. Questionnaires were sent to a convenience sample of 20 persons in German-speaking Switzerland (married, bereaved as well as divorced individuals), with specific instruction to be critical and note on the questionnaire if anything was unclear, formulated badly or otherwise a problem. Furthermore, participants were asked to write down how long it took to fill out the questionnaire. Eleven of the original 20 German-speaking subjects returned the questionnaire. The general consensus was that the questionnaire was too long and needed to be shortened. Also, the instructions were not clear enough in some cases and had to be improved. This second version was again submitted to several testers. The resulting questionnaire was then formatted and translated into French, followed by a back-translation and a pretest of the French version (12 questionnaires sent out to a convenience sample, 10 returned; wording of questionnaire changed where necessary). The finished questionnaire was also implemented as an online version in both languages (on the LimeSurvey platform). All participants were informed in the first contact letter that the questionnaire could be filled out either online or on paper, and a link was provided.

The questionnaire as well as the procedure was approved by the Ethics Committee of the Faculty of Human Sciences of the University of Bern on November 15th, 2011.

Table 3: Overview of the Questionnaire IP12

Variable	Questionnaire/ Questions	Source
B Well-being		
Life satisfaction	Satisfaction with Life Scale	Diener et al., 1985; Schumacher,2003
Depression	CES Depression Scale	Radloff, 1977/ dt: Hautzinger & Bailer, 1993
Current stress	Perceived Stress Scale	Cohen et al., 1983
Stress over lifespan	Stress over lifespan	Original item
Childhood	Grown up with both parents? Age at the time of separation? Reasons? Grown up with whom? Happiness concerning childhood in general?	Original items (all of them also used in IP13)

Loneliness	De Jong Gierveld Loneliness Scales	De Jong Gierveld, & Kamphuis, 1985; De Jong Gierveld & Van Tilburg, 2006
Group membership	EXITS: Section 1	Haslam et al., 2008
Physical well-being	Subjective Health	Swiss Household Panel, IP13
	Comparison with others of same age	Swiss Health Survey 2007 (Swiss Federal Office of Statistics, 2009)
	Consultation rates, Medication intake	Swiss Health Survey 2007 (Swiss Federal Office of Statistics, 2009)
	Alcohol consumption	Nicolai et al., 2010
C Personality		
Personality	BFI-10	Rammstedt & John, 2007
Resilience	Resilience Scale	Wagnild & Young,1993; Schumacher et al., 2005
Hopelessness	Hopelessness Scales	Beck et al., 1974; dt.: Krampen, 1994
Continuity	EXITS: Continuity Scale	Haslam et al., 2008
D Current intimate relationship		
Duration	Duration of current relationship	Original item
Partner	Partner's origin	Original item
Marriage	Married? How long? First marriage?	Original item
Co-habitation	Living in same household?	Original item
Offspring	Common children? Age? Grandchildren?	Original item
Happiness	Happiness in this relationship	Original item
Marital satisfaction	Marital satisfaction inventory-revised	Whismann et al., 2009; Klann et al., 2006
Sexual life	Satisfaction with sexual life	Humbel/Perrig-Chiello, 2009
Co-Development	Development in relationship	Humbel/Perrig-Chiello, 2009
Counselling	Professional help? When? How long?	Original item
"Grand Amour"	Is actual partner "Grand Amour"?	Original item (also IP13)
E Experiences of loss in intimate relationships over the life span		
Experience of loss	Separation, Divorce, Widowhood (filter)	Original item
F Separation and divorce		
Point in time	Time of separation	Original item
Duration	Duration of relationship	Original item
Expectedness	Expectedness of separation	Original item
Emotional valence	Emotional valence of separation	Original item

Table 3 continued

Initiator separation	Initiator vs. reactor	Original item
Reasons	Own view/View of ex-partner	Original items

Marriage	Married (how long) or not (filter)	Original items
If divorced:		
Duration	Duration of marriage until separation	Original item
Divorce	Divorce, Separation without divorce	Original item
Initiator divorce	Initiator vs. reactor	Original item
Duration of separation	Duration of separation before divorce	Original item
Reasons	Own view/View of ex-partner	Original items
If separated or divorced:		
Co-Development	Development in relationship	Humbel/Perrig-Chiello, 2009
Sexual life	Satisfaction with sex life	Humbel/Perrig-Chiello, 2009
Coping strategies	Individual coping strategy before and after separation? Coping strategies as couple before separation?	Original items
Social support	Availability? Who?	Original item
Happiness	Happiness in this relationship	Original item
Regrets	Regrets concerning the separation/divorce	Original item
Mourning	Psychic overcome the separation/divorce	Original item
"Grand amour"	Lost partner "Grand amour"?	Original item (also in IP13)
Actual relationship	Actual relationship with ex-partner?	Original item
Children	Common children? Child care? Contact with ex-partner? Satisfied with contact? Grandchildren? Satisfied with contact?	Original items
Growth	Posttraumatic Growth Inventory	Cann et al., 2010; Maercker et al., 2001
G Bereavement		
Point of time	Time of death	Original item
Marriage	Married? How long?	Original item
Expectedness	Expectedness of loss	Original item
Emotional valence	Emotional valence of loss	Original item
Coping	Individual coping strategy after loss	Original item
Social support	Availability? Who?	Original item
Happiness	Happiness in this relationship?	Original item
"Grand Amour"	Lost partner "Grand Amour"?	Original item (also IP13)
Overcoming loss	Psychic overcome the loss	Original item
Development	Development in relationship	Humbel/Perrig-Chiello, 2009
Offspring	Common children? Grandchildren?	Original items
Growth	Posttraumatic Growth Inventory	Cann et al.,2010; Maercker et al., 2001

2.3. Internal consistency of central scales

The core scales of the questionnaire were tested for internal consistency by calculating Cronbach's alpha. As can be seen in *Table 4*, all instruments demonstrate high internal consistency, with alphas ranging from .73 (Perceived Stress Scale) to .91 (Growth).

Table 4: Internal consistency (Cronbach's alpha) of selected instruments

Scale	No. of items	No. of cases	Cronbach's alpha
Life satisfaction	5	2593	.89
Depression	15	2229	.89
Loneliness	6	2590	.81
Perceived stress	4	2614	.73
Resilience	11	2528	.86
Hopelessness (HS-RA)	10	2518	.79
Growth after divorce	10	938	.91
Growth after bereavement	10	416	.91

2.4. Data Entry

We used the SPSS data entry form created by the online version of the questionnaire for all data entry. An individual id code (a number) allows a link to the names and addresses stored in a separate database, as well as to the actual paper questionnaires. All people involved in data entry were carefully instructed in procedure. The five first questionnaires entered by each person were double-checked; afterwards, 5% of all German questionnaires and all French questionnaires were controlled for data entry mistakes.

2.5. Data consistency and data cleaning

Data was examined for obvious data entry mistakes and corrected accordingly, by cross-referencing each case to the paper questionnaire. The entered data were also submitted to several consistency checks. For instance, inconsistent information given by the participants was compared to the information provided by the Federal Office of Statistics where possible. Most inconsistencies concerning the year of the event (separation, divorce, and bereavement) could be resolved that way. The resulting data file (version 1.0, 06.09.2012) was then made available to the IP members and also served as a basis for the current report.

2.6. Distribution of main variables

Analyses of the complete sample show that the core variables depression, perceived stress, marital satisfaction, hopelessness, social and emotional loneliness, life satisfaction, resilience, as well as all five personality dimensions deviate significantly from a normal distribution (see Table A4 in the appendix). The same holds true when the three groups are analyzed separately (all *p*s < .001). In psychology it is not unusual that the distribution of specific variables deviates from normality, particularly that of well-being and clinical variables such as life satisfaction (e.g.

Cummins, 1998) or depression (Angold, Erkanli, Silberg, Eaves, & Costello, 2002). However, strong deviation from normality has, of course, indications for future data analyses: It is possible that in some instances the use of non-parametric tests will be advisable.

2.7. Item non-response

In general, the rate of item non-response (items that were left unanswered) is rather low. Among the variables of section A (demographic information), the item about religious affiliation was left out by 4.5% of all participants. For all other variables of that section, the item non-response value lies below 2%. In the core variables depression, perceived stress, hopelessness, loneliness, life satisfaction, resilience, as well as personality, the average item non-response (mean percentage of all items of a scale) ranges between 2.8% (loneliness) and 6.4% (depression). It was also analysed how many percent of the total sample skipped entire scales. This was only the case for maximum two percent of the sample (see Table 5).

Regarding the items that were only answered by the divorce group, the non-response rate is also rather low, with the exception of Growth with 6.7% non-response The non-response rates in the bereavement group are considerably higher. 14.1% did not answer the Growth scale (average % of non-responses over all growth items).

Table 5: Item-non response on core variables

	average % of missings per item of the scale	highest % of missings	% of the sample who skipped the entire scale
Life satisfaction[1]	3.2	4.2	<1
Depression[1]	6.4	8.0	2
Perceived stress[1]	3.8	4.1	2
Loneliness[1]	2.8	3.6	<1
Personality[1]	3.0	3.4	<1
Resilience[1]	3.2	4.5	1
Hopelessness[1](HS-RA)	3.2	4.5	1
Growth after divorce[2]	6.7	11.4	3
Growth after bereavement[3]	14.1	16.7	2

[1]N total sample: 2763; [2]n divorce group: 1107; [3]n widowhood group: 569.

3. Sample description

3.1. Characteristics of the total sample

The total sample consisted of 1193 men and 1568 women. Men were on average 63.8 years, women 60.0 years old (Mann-Whitney U = 779216, $p < .001$). Regarding education, the most frequently checked category was professional formation (35% of men, 40% of the women chose this option), followed by higher professional formation (28% of men, respectively 24% of women). There was a significant difference between men and women in education ($X^2(6) = 99.103$, p <

.001), with significantly fewer men having completed only primary or secondary school I and II, and more men having a university degree than expected. A majority of the total sample reported having enough money to meet their needs (75% of men, 79% of women); only approximately 10% said that they do not have enough money. Men and women differed with regard to their financial situation ($X^2(2) = 9.201$, $p = .010$), with less women than expected stating that they have more than enough money. The majority of the sample was of Swiss origin (approx. 85%), about 13% was of European (non-Swiss) origin, and 1% of persons was of Asian descent. There was no difference between men and women with regard to origin ($X^2(5) = 5.585$, $p = .764$). A little over 40% of the sample lived in rural areas, about a third lived in suburbs, and approximately a quarter lived in cities (no gender differences, $X^2(2) = 2.715$, $p = .257$). Approximately half of both men and women in the sample were employed. However, there were significant differences in the categories "homemaker" and "retired": 38% of the women, but only 5% of the men considered themselves homemakers, and a significantly higher percentage of men was retired (50% versus 37%). 41% of the men and 47% of the women were part of the reformed church, a good third was catholic, and 20% of the men and 17% of the women said they were without confession. Details are displayed in *Table 6*.

3.2. Sample characteristics of the three groups

The divorce group consisted of 449 men and 658 women (see Table 7). Men and women differed in age, with the men ($M = 55.9$ years) being significantly older than women ($M = 52.8$ years; Mann-Whitney U = 121649, $p < .001$). Men and women differed significantly in education, ($X^2(6) = 36.101$, $p < .001$). The most frequently reported category of educational degree by men was higher professional formation (34%), followed by professional formation (29%) and university (22%). For women, professional formation was the most frequently reported category (38%), followed by higher professional formation (30%) and secondary school II (14%). 11% of women had a university degree. Three quarters of both men and women were employed, 23% of the men and 13% of the women were retired. Men and women of the divorce group also differed regarding their financial situation ($X^2(2) = 9.918$, $p = .007$), with less women than men reporting having more than enough money for their needs.

As in the total sample, the majority of participants in the divorce group were of Swiss origin (82% men, 85% women; no significant gender difference, $X^2(5) = 2.112$, $p = .833$). Concerning their area of residence, 38% lived in rural areas, 37% in suburbs, and a quarter in cities. Men and women in the divorce group did not differ regarding their residential area ($X^2(2) = 1.241$, $p = .538$), however they did with regard to religion ($X^2(4) = 20.069$, $p < .001$). For men, the religious affiliation was divided between catholic (36%), no confession (32%) and reformed (31%). Amongst the women, a higher percentage was reformed (43%), followed by the catholic faith (32%) and no confession (24%) (see Table 7).

Table 6: Characteristics of the total sample by gender and gender comparisons

		Total sample		
		Men	Women	Gender comparison Sign.
N		1193 (43%)	1568 (57%)	
Age (M, (SD))		63.8 (13.5)	60.0 (12.8)	.000
Education	Primary school	71 (6)	146 (9)	.000
(% in parentheses)[1]	Secondary school I	25 (2)	62 (4)	
	Professional formation	416 (35)	615 (40)	
	Secondary school II	111 (9)	232 (15)	
	Higher profess. formation	334 (28)	366 (24)	
	University	210 (18)	120 (8)	
	Other	13 (1)	15 (1)	
Financial status	More than enough money	185 (16)	181 (12)	.010
(% in parentheses)[1]	Enough money	885 (75)	1218 (79)	
	Not enough money	110 (9)	150 (10)	
Origin	Swiss	1012 (86)	1321 (85)	.764
(% in parentheses)[1]	European	150 (13)	214 (14)	
	Asian	9 (1)	11 (1)	
	African	5 (<1)	3 (<1)	
	North American	5 (<1)	6 (<1)	
	South American	3 (<1)	7 (<1)	
Area of living	Rural area	481 (41)	647 (42)	.257
(% in parentheses)[1]	Suburb	416 (35)	500 (32)	
	City	280 (24)	394 (26)	
Professional situation[2]	Employed	614 (52)	833 (53)	.449[3]
(% in parentheses)[1]	Homemaker	57 (5)	600 (38)	.000[3]
	Retired	598 (50)	586 (37)	.000[3]
	Unemployed	16 (1)	25 (2)	.593[3]
	Permanently disabled	16 (1)	20 (1)	.873[3]
	Other	43 (4)	93 (6)	-
Religion	Catholic	425 (37)	529 (35)	.022
(% in parentheses)[1]	Reformed	471 (41)	703 (47)	
	Jewish	6 (1)	6 (<1)	
	Muslim	11 (1)	8 (1)	
	No confession	229 (20)	249 (17)	

[1] numbers may not add up to 100% due to rounding
[2] summed up percentages may exceed 100%, as multiple answers were possible
[3] phi test statistic; multiple answers were possible.

The bereavement group comprises 240 men and 329 women. There was a significant difference between the sexes in age (mean age men 74.2, mean age women 69.4, Mann-Whitney U = 28491.5, $p < .001$). Men and women also differed significantly in education ($X^2(6) = 40.443$, $p < .001$, with significantly more men in the university category and significantly less men in secondary I). 78% of men and 83% of women stated that they had enough money to meet their needs. Approximately 5% of the bereaved felt that they did not have enough money to make ends

meet (no significant gender difference, $X^2(2) = 4.167$, p = .125). A majority was retired, with just under a quarter still employed. As in the divorce group, the majority of the bereaved were of Swiss origin (89% of men, 86% of women), with only a small percentage being of Non-Swiss European (9% of men, 13% of women) or other descent. There was no significant gender difference in origin ($X^2(4) = 3.586$, p = .465). Approximately 40% of the bereaved lived in rural areas, about a third lived in suburbs, and 22% of the men and 30% of the women lived in cities (no significant gender difference, ($X^2(2) = 4.128$, p = .127). About half of the bereaved sample was affiliated with the reformed church, a third with the catholic church, and 17% of men and 14% of women had no confession (no significant gender difference, $X^2(4) = 2.273$, p = .686).

The control group consisted of 504 men and 581 women. Men and women differed significantly in age (Mann-Whitney U = 126145, p < .001), with men being significantly older (mean age men 66.0, mean age women 62.7). Regarding education, for both men and women professional formation was most frequently checked category, followed by higher professional formation. However, significantly more women finished primary school and significantly less women completed university as highest educational degrees, resulting in a significant gender difference in education ($X^2(6) = 41.324$, p < .001). Regarding the employment situation, 45% of men and 43% of women were employed, 58% of men and 46% of women were retired. Similar to the bereavement group, the great majority of the control group felt that they had enough money to meet their needs (78%), and about 15% even stated that they had more than enough money. Only about 5% indicated that they did not have enough money. Men and women did not differ with regard to financial situation ($X^2(2) = .618$, p = .734). Just like in the other groups, the ethnic origin was predominantly Swiss, followed by Non-Swiss European origin. There were no gender differences in origin ($X^2(5) = 4.817$, p = .439). 45% of the men and almost half of the women of the control group live in rural areas, followed by not quite a third living in suburbs and not quite a quarter living in cities (no gender difference, $X^2(2) = 1.436$, p = .488. With regard to religion, 47% (respectively 48% of the women) of the control group were of reformed confession, 41% were catholic and about 10% were without confession (no gender difference, $X^2(4) = 3.495$, p = .479).

3.3. Group differences in demographic variables

The three groups (divorced, bereaved, and controls) differed significantly in terms of age, H(2) = 722.096, p < .001 (as was to be expected due to the sampling strategy; see Table 7). Post hoc comparisons yielded significant differences in all single comparisons between groups (all ps < .001). The three groups also showed significant differences in education ($X^2(12) = 94.619$, p < .001). Significantly more people in the control group had only completed primary school or secondary school I, and less people had completed a higher professional education or university than in the divorce group. In the bereavement group, less persons had a higher professional education than in the divorce group. The differences in all categories of professional situation also reached significance (all *p*s < .01).

Table 7: Differences between the divorce, bereavement and control group

	Divorced		Widowed		Married		Diff. between the divorce, bereavement & control group
	Males	Females	Males	Females	Males	Females	
N	449 (41%)	658 (59%)	240 (42%)	329 (58%)	504 (46%)	581 (54%)	
Age (M, (SD))	55.9 (9.9)	52.8 (8.6)	74.2 (8.9)	69.4 (9.8)	66.0 (13.9)	62.7 (13.7)	.000
Education (in %)*							.000
Primary school	16 (4)	31 (5)	17 (7)	39 (12)	38 (8)	76 (13)	
Secondary school I	7 (2)	11 (2)	2 (1)	18 (6)	16 (3)	33 (6)	
Professional formation	131 (29)	251 (38)	94 (40)	130 (40)	191 (38)	234 (41)	
Secondary school II	39 (9)	93 (14)	24 (10)	60 (19)	48 (10)	79 (14)	
Higher prof. formation	150 (34)	195 (30)	59 (25)	59 (18)	125 (25)	112 (20)	
University	97 (22)	71 (11)	41 (17)	17 (5)	72 (15)	32 (6)	
Other	5 (1)	5 (1)	1 (<1)	2 (1)	7 (1)	8 (1)	
Financial status (in %)[1]							.000
More than enough m.	66 (15)	59 (9)	40 (17)	35 (11)	79 (16)	87 (15)	
Enough money	312 (70)	502 (77)	186 (78)	268 (83)	387 (78)	448 (78)	
Not enough money	68 (15)	90 (14)	13 (5)	20 (6)	29 (6)	40 (7)	
Origin (in %)[1]							.555
Swiss	367 (82)	553 (85)	210 (89)	281 (86)	435 (87)	487 (84)	
European	72 (16)	90 (14)	22 (9)	42 (13)	56 (11)	82 (14)	
Asian	2 (<1)	4 (1)	1 (<1)	3 (1)	6 (1)	4 (1)	
African	3 (1)	2 (<1)	0 (0)	0 (0)	2 (<1)	1 (<1)	
North American	2 (<1)	2 (<1)	2 (1)	1 (<1)	1 (<1)	3 (1)	
South American	2 (<1)	3 (1)	0 (0)	1 (<1)	1 (<1)	3 (1)	
Area of living (in %)[1]							.000
Rural area	164 (37)	250 (38)	96 (40)	121 (38)	221 (45)	276 (49)	
Suburb	172 (39)	230 (35)	89 (37)	103 (32)	155 (31)	167 (29)	
City	110 (25)	173 (27)	53 (22)	95 (30)	117 (24)	126 (22)	
Professional situation[2]							
Employed	339 (76)	510 (78)	52 (22)	76 (23)	223 (45)	247 (43)	.000[3]
Homemaker	26 (6)	217 (33)	19 (8)	89 (27)	12 (2)	294 (51)	.000[3]
Retired	104 (23)	82 (13)	204 (85)	238 (73)	290 (58)	266 (46)	.000[3]
Unemployed	12 (3)	17 (3)	0 (0)	4 (1)	4 (1)	4 (1)	.000[3]
Permanently disabled	10 (2)	12 (2)	0 (0)	1 (<1)	6 (1)	7 (1)	.008[3]
Other	20 (4)	49 (7)	8 (3)	15 (5)	15 (3)	29 (5)	-
Religion (in %)[1]							.000
Catholic	154 (36)	197 (32)	73 (33)	102 (32)	198 (41)	230 (41)	
Reformed	134 (31)	266 (43)	111 (50)	166 (52)	226 (47)	271 (48)	
Jewish	1 (<1)	3 (1)	3 (1)	3 (1)	2 (<1)	0 (0)	
Muslim	6 (1)	2 (<1)	0 (0)	2 (1)	5 (1)	4 (1)	
No confession	138 (32)	151 (24)	37 (17)	45 (14)	54 (11)	53 (10)	

[1] *numbers may not add up to 100% due to rounding*
[2] *summed up percentages may exceed 100%, as multiple answers were possible*
[3] *phi test statistic; multiple answers were possible.*

Furthermore, there were significant effects in financial situation ($X^2(4) = 54.923$, $p < .001$; significantly less bereaved and controls and more divorcees than expected in the „I do not have enough money" category). When it comes to the ethnic origin of the participants, there were no group differences ($X^2(10) = 8.757$, $p = .555$). However, groups differed significantly in area of living ($X^2(4) = 20.855$, $p < .001$), with more participants of the control group and less of the divorce group living in rural areas. Regarding religion, there was also a significant difference between groups ($X^2(8) = 124.258$, $p < .001$), with more controls being catholic and less divorcees and more bereaved being reformed. Also, less controls and more divorcees were without confession than would be expected.

4. Validating the quality of the sample

4.1. Comparisons with Swiss Labour Force Survey and Swiss Health Survey results[7]

In this chapter the IP12-sample is compared with relevant data sets (Swiss Labour Force Survey, Swiss Health Survey) to evaluate the quality of the sample, particularly regarding relevant social biases that have to be taken into account when analysing and interpreting the data on the effects of divorce or widowhood. As the design of the study is based on a disproportionate sampling strategy (with a systematic overrepresentation of men and women having experienced a divorce or – at later ages – a bereavement) the sample is not representative for the variables "age", "gender" and "civil status"[8]. Therefore, the comparison is based on an analysis differentiating the two data sets by age-group and gender. In addition, we have to consider that some differences in the age- and gender-specific distributions between the IP12-sample and external data can be the consequence not of a sampling bias, but the result of the overrepresentation of people having experienced a critical life event (divorce, bereavement) (design effects).

As the number of cases for a separate validation by language region (while maintaining the age groups) is too small to allow meaningful results, the validation is based on the complete sample. In addition, as part of the sample has been recruited through internet contacts, it is not surprising that the proportion having access to internet at home is slightly higher in the sample than within total population. However, this difference is statistically significant only for people aged 65 and higher[9]. According to data collected by the Federal Office of Statistics, 41% of households with a reference person aged 65+ had in 2009 internet access at home, compared to 61% of the interviewed persons in the year 2012[10]. Taking into account that between 2009 and 2012 the internet access has further increased, this difference does not imply a strong bias. Looking at the younger age-group (45-54) the sample data correspond to population data (2009: 93%, sample 2012: 96% having internet access at home).

A more serious social bias of the IP12-sample is found in the social distribution of men and women interviewed. Like in most surveys based on a written questionnaire we observe a substantial 'middle class bias' of respondents. This is clearly demonstrated when comparing the

age- and gender-specific distribution of respondents according to educational level with the data of the Swiss Labour Force Survey 2009 (see Table 8): The proportion of women and men with low educational level – and therefore often being part of lower social status groups – is significantly lower in the IP12-sample than in the Labour Force Survey (a micro-census with a good quality of reflecting the real social situation of the adult population in Switzerland). The underrepresentation of lower educational groups is particularly strong among women of all ages, while for men the low education group is primarily underrepresented among older respondents (70+).

On the other side, persons with a higher educational level (particularly academic education) are clearly overrepresented, reflecting a considerable social bias within the IP12-sample. This social bias has to be taken into account when analysing and interpreting the data on psychological adaptation after a late divorce or after widowhood, as at least some outcome variables of divorce and widowhood are influenced by educational level, social status, and financial situation. Nonetheless, the IP12-sample too shows an improvement of educational level in younger age-groups, reflecting the trend to enhanced educational achievements among younger cohorts of men and women.

Table 8: Highest educational achievement: IP12 compared to Swiss Labour Force Survey 2009

		Distribution by level of educational achievement				
Age Group:		**40-49**	**50-59**	**60-69**	**70-79**	**80+**
IP12 Sample						
Women	Secondary level I	4	9	16	24	27
	Secondary level II	52	52	56	61	57
	Higher education	43	39	27	15	14
	Other	1	1	1	0	2
Men	Secondary level I	6	10	8	8	10
	Secondary level II	36	39	32	50	57
	Higher education	55	50	49	42	32
	Other	3	1	1	0	1
Swiss Labour Survey 2009 (weighted data)						
Women	Secondary level I	16	21	29	41	51
	Secondary level II	58	58	58	52	44
	Higher education	26	21	13	7	5
Men	Secondary level I	10	11	12	17	24
	Secondary level II	46	49	51	54	53
	Higher education	44	40	37	29	23

**Notes. Secondary level I (primary school, no professional education), secondary level II: inclusive professional education (apprenticeship etc.), higher education: higher professional education, university etc.).*

Looking at employment rates of men and women by age, we find only slight and in no age group strong differences between sample data and labour force survey data (see Table 9): A statistically significant difference is only observed among the 40-69-years old (particularly among women) who are more often employed as the total population of the same age. This difference might possibly reflect the fact that after a divorce a woman is often financially dependent on employment, and since our sample contains many divorced women, this could result in comparatively high employment rates.

Table 9: Employment rates by age and sex: IP12 compared to Swiss Labour Force Survey

	Percent being gainfully employed				
Age Group:	**40-49**	**50-59**	**60-69**	**70-79**	**80+**
IP12 Sample					
Women	85	87	39	6	3
Men	96	95	50	12	5
Labour Force Survey 2009 (weighted data)					
Women	75	71	26	4	1
Men	91	85	44	9	3

Comparing two socio-cultural variables (Swiss origin, distribution by religious affiliation), the following observations can be made:

First of all, there is no clear (and statistically significant) tendency that in the sample the respondents of Swiss origin are overrepresented. Among the group of women aged over 69 the proportion of respondents reporting a non-Swiss origin is even slightly (but statistically not significant) higher than within the total population (see Table 10). This reflects, in our opinion, the fact that in the IP12-questionnaire not the actual nationality, but the national origin has been asked and in higher age groups a substantial proportion of foreign-born men and women have achieved Swiss citizenship. Looking at the population 65 and older, according to the Swiss labour survey 2009, about 10% are foreigners, but 20% have been born outside Switzerland.

Secondly, due to the recruitment process in mostly traditional protestant regions the protestant respondents are overrepresented and the catholic respondents are underrepresented (see Table 11). This can influence some variables regarding the prevalence and consequences of a divorce, as the roman-catholic church officially does not accept a divorce. The religious non-affiliated persons – an increasing group within Switzerland – are more or less well represented in the sample, while non-Christian respondents – generally a small group in Switzerland – are a too small group for further analysis.

Table 10: Distribution by origin: Proportion indicating a Swiss origin

Age Group:	40-49	50-59	60-69	70-79	80+
IP12 Sample					
Women	83	85	88	81	85
Men	75	86	88	85	92
Swiss labour force survey 2009 (weighted data)					
Women	77	86	90	91	95
Men	72	80	85	87	93

Table 11: Distribution by religious affiliation

	Women		Men	
Age Group:	**45-64**	**65+**	**46-64**	**65+**
IP12 Sample				
Roman Catholic	33.7	35.1	36.3	38.1
Protestant	42.8	55.3	34.1	47.9
Jews	0.3	0.7	0.2	0.9
Islam	0.6	0.2	1.0	0.2
Without religious affiliation	22.6	8.8	28.4	12.9
Other	-	-	-	-
Census data 2012				
Roman Catholic	39.6	42.0	38.3	41.1
Protestant	32.5	43.4	29.3	40.0
Jews	0.2	0.3	0.2	0.3
Islam	3.0	0.5	4.0	0.9
Without religious affiliation	19.4	9.6	22.9	13.5
Other/unknown	5.3	4.2	5.3	4.2

**Notes. Source : BFS: su-d-01.06.03.03.01*

Main conclusions. Comparing the IP12-sample with other data sets (Census or Microcensus data) we find two sample bias and some design effects: The first sample bias concerns the underrepresentation of respondents with low educational level, resulting in a significant 'middle class bias' of the respondents (a problem often encountered for postal surveys or interviews based on a written questionnaire). In the context of divorce and bereavement it can be hypothesized that this bias can have the effect that the social and psychological outcomes of these critical life events are more positive than in a sample where less resourceful persons are fully represented. The second bias concerns religious affiliation, as catholic respondents are underrepresented. This bias might be expected to have an effect – if at all – primarily on divorce variables (as the Roman-Catholic church is officially against accepting divorcees).

4.2. Distribution of sample by cantons – comparison with the 2010 census study[11]

Representativeness at the canton level was not an aim of this survey, thus some cantons (e.g., Uri and AppenzellInnerrhoden) do not have enough respondents to allow statistical inferences on the canton. Nevertheless the sample approximates the distribution of the Swiss population as reported in the 2010 Census study for the 25 cantons that were of interest according to the research design (excluded: Ticino) (see Table 12). In particular, there is an over-representation of the Bern canton and (slighter) of Zurich and Basel-Landschaft. The cantons that are slightly under-represented are Geneva and Valais. 22 respondents recruited via the internet did not fill their address on the web questionnaire and 2 were residing outside Switzerland. For those respondents the canton information is missing. Figure 1 displays the sample distribution by canton and gender proportions.

Table 12: Census and IP12 sample distributions by canton

Canton	Population (Census 2010)	IP12 Sample	% Population	% IP12 Sample
Zurich	1373068	520	17.45	18.36
Bern	979802	463	12.45	16.35
Lucerne	377610	133	4.80	4.70
Uri	35422	7	0.45	0.25
Schwyz	146730	51	1.86	1.80
Obwalden	35585	15	0.45	0.53
Nidwalden	41024	17	0.52	0.60
Glarus	38608	20	0.49	0.71
Zug	113105	40	1.44	1.41
Fribourg	278493	84	3.54	2.97
Solothurn	255284	104	3.24	3.67
Basel-Stadt	184950	60	2.35	2.12
Basel-Landschaft	274404	135	3.49	4.77
Schaffhausen	76356	25	0.97	0.88
Appenzell Ausserrhoden	53017	26	0.67	0.92
Appenzell Innerrhoden	15688	3	0.20	0.11
St. Gallen	478907	176	6.09	6.21
Graubünden	192621	56	2.45	1.98
Aargau	611466	221	7.77	7.80
Thurgau	248444	102	3.16	3.60
Ticino	333753	0	4.24	0.00
Vaud	713281	278	9.06	9.82

Valais	312684	80	3.97	2.82
Neuchâtel	172085	59	2.19	2.08
Geneva	457715	137	5.82	4.84
Jura	70032	20	0.89	0.71
Total	7870134	2832	100.00	100.00

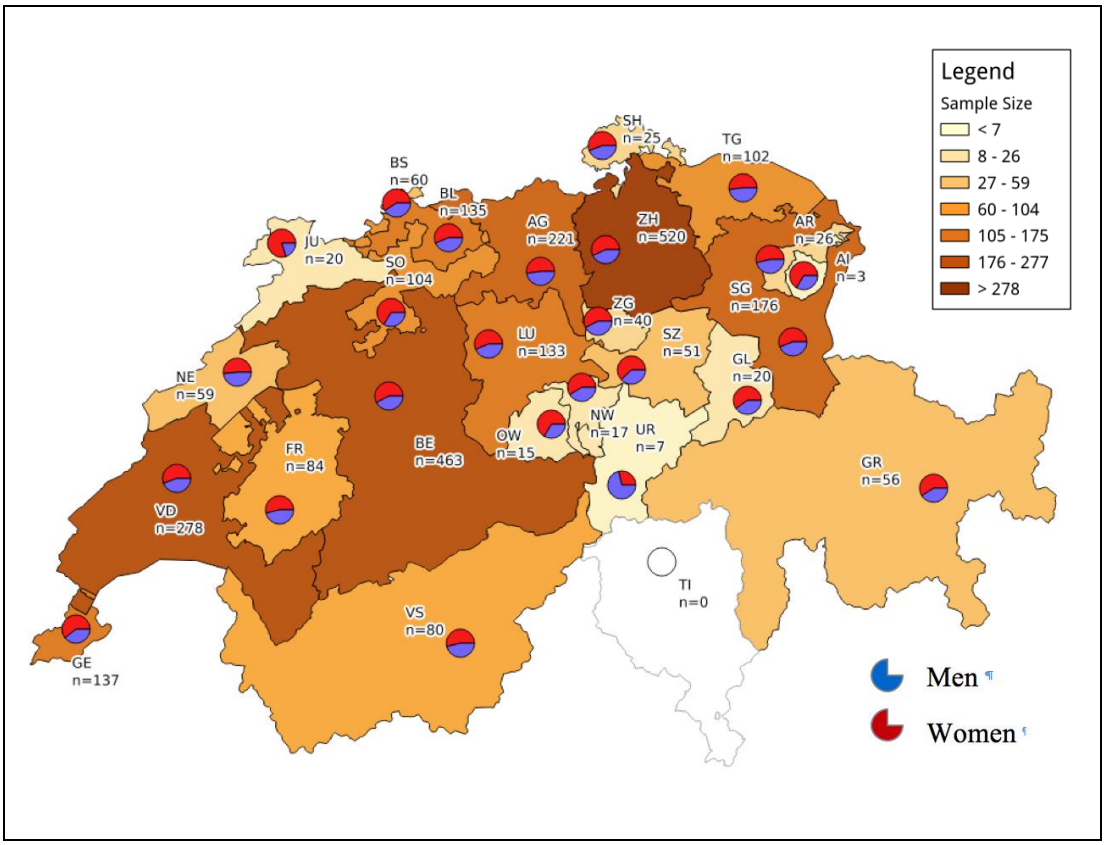

Figure 1: Sample Distribution by canton

5. Differences between the two language regions in age, education, gender

The samples of the two language regions did not differ with regard to age (Mann-Whitney z = -1.849, p = .064) and gender (ϕ = .004, p = .842). However, the difference between levels of education in the two language regions reacheed significance ($X^2(6)$ = 55.029, p < .001). Furthermore, significant differences were observed in origin, $X^2(5)$ = 28.101, p < .001 (more Swiss French from Europe and North America/Australia), area of living ($X^2(2)$ = 92.227, p < .001; significantly more French speaking and less German speaking participants than expected lived in a city, with the opposite pattern for the category suburb), religion ($X^2(4)$ = 23.164, p < .001; more Swiss French were catholic, and less reformed), and professional situation (more Swiss German participants were homemakers, less were retired) (Table 13).

Table 13: Sample differences between German- and French-speaking respondents

	German speaking	French speaking	Sign.
Age	61.4 (13.2)	62.5 (13.2)	.064
Gender			.842
Female	1226 (57%)	342 (56%)	
Male	929 (43%)	264 (44%)	
Education (%)[1]			.000[2]
Primary school	8	9	
Secondary school I	3	4	
Professional formation	39	34	
Secondary school II	11	18	
Higher professional educ.	28	19	
University, ETH, EPFL	11	17	
Other	1	0	
Origin (in %)[1]			.000
Swiss	86	80	
European	12	17	
Asian	1	1	
African	0	1	
North American	0	1	
South American	0	1	
Area of living (in %)[1]			.000
Rural area	42	38	
Suburb	37	23	
City	21	39	
Religion (in %)[1]			.000
Catholic	34	44	
Reformed	46	39	
Jewish	1	0	
Muslim	1	1	
No confession	19	16	
Professional situation (%)[3]			
Employed	54	49	.053[4]
Homemaker	27	12	.000[4]
Retired	42	47	.029[4]
Unemployed	1	3	.001[4]
Permanently disabled	1	2	.662[4]
Other	5	4	-
Financial status (%)[1]			.077
More than enough m.	13	16	
Enough money	78	74	
Not enough money	9	11	

[1] numbers may not add up to 100% due to rounding; [2] however, this difference disappears once age and gender are controlled for; [3] summed up percentages may exceed 100%, as multiple answers were possible.[4] phi test statistic, multiple answers were possible.

6. Summary, further reflections and outlook

It is the aim of this working report to make the goals, the study design and the methodology of IP12 transparent to the public. One focus of IP12 is clearly on psychological vulnerability after the breakup of an intimate relationship in the second half of life, be it by separation, divorce or bereavement. However, we are also interested in the positive outcomes of such events, namely growth. The basic design of IP 12 is longitudinal, with several waves of assessment, to measure the trajectories of vulnerability and growth. At present, the first wave of data collection has been completed, thus only allowing cross-sectional analyses. In this first wave, the research team gathered the data of 2856 persons. Of these, 1085 are presently married and have never experienced a divorce or loss of an intimate partner, forming the control group. 1107 participants have experienced a divorce, 848 of them within the last five years, and 569 participants have experienced the loss of a spouse (537 in the past 5 years). While the goal of recruiting 2100 participants was surpassed, nevertheless not all cells of the sample table could be filled as desired. In particular, the number of recently widowed falls short of the original aim. The men and women in our sample differ in various ways: Men are on average older, more likely to have a university degree, less likely to have a low level of education, and more frequently financially well off. These differences are also present in the divorce group, and with the exception of the financial differences, in the bereavement and control group. The three groups differ in terms of age, education, finances, professional situation (this partly due to the age differences), residential area, and religion. These differences have to be kept in mind when computing further analyses between groups.

The measures used in the questionnaire prove to have a good internal consistency. A validation of the data set with data from the Swiss Labour Survey and the Swiss Health Survey shows that there are some restrictions with regard to representativity: Participants with a low educational level as well as Catholics are underrepresented. There is no bias with regard to employment rates or ethnic origin.

What are the implications of the first preliminary analyses conducted with the data? First of all, the results show that some gender differences need to be taken into account: In our sample, men tend to be better educated and financially better off than women. Furthermore, there are also differences in religious affiliation, and, of course, in the employment situation. Even though these differences are not unexpected, they still should be included as control variables in future multivariate analyses. We also found certain differences between the loss groups and the control group, namely in education, religious affiliation, and financial situation. As has been stated in other studies (e.g. Ellis, 2008), divorced individuals are more likely than the participants in the other two groups to experience financial difficulties.

Preliminary analyses show that the samples stemming from German and French speaking Switzerland do not differ with regard to age and gender. There is a significant difference in education - however, this difference disappears if one controls for age and gender. Therefore, in

the most crucial variables the samples appear to be quite homogeneous, despite some differences in ethnic origin, religious affiliation, and area of living.

Notes

[1] Section 1 was authored by Pasqualina Perrig-Chiello
[2] Bundesamt für Statistik (2009). Demografisches Portrait der Schweiz. Neuchâtel.
[3] Joseph, S. & Linley, P.A. (2005). Positive adjustment to threatening events. Review General Psychology,5,9,3,262-280) ; Surtees, P.G. et al. (2006). Resilience, misfortune, and mortality : evidence that coherence is a marker of social stress adaptive capacity. J. Psychosocial Research,61,221-227.
[4] We consider the separation as the biographical turning point and critical life event, and this will be taken into account in all our analyses. The reason why we also refer to divorce is twofold: a) practical reasons: It would have been impossible to constitute a large sample only on the basis of separation, b) scientific reasons: the legal end of a relationship seems also to be a highly emotional matter.
[5] We'd like to thank Rachel Fasel, Davide Morselli, Dominique Joye, Beatrice Rumpel, Charlotte den Hollander, and Eva van Rhee for their invaluable help in various stages of the project.
[6] The manner of contact was inspired by the tailored design method, which suggests ways to increase the return rates in questionnaire studies (Dillman, 2007).
[7] Section 4.1 was authored by François Höpflinger
[8] If projections regarding the distribution of total population by age and gender are intended, the data have to be weighted according to the design variables. Looking at intergroup differences, a systematic control of age and gender is necessary.
[9] The analysis of the statistical significance of sample distribution is based on two-sample T-tests, and a difference is defined as significant according to a significance level of 1%.
[10] See: BFS aktuell, Internet in den Schweizer Haushalten, Neuchâtel: February 2011.
[11] Section 4.2 was authored by Davide Morselli.

References

Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and the Family, 62*(4), 1269-1287. doi: http://dx.doi.org/10.1111/j.1741-3737.2000.01269.x

Amato, P. R. (2010). Research on divorce: Continuing trends and new developments. *Journal of Marriage and Family, 72*(3), 650-666. doi: http://dx.doi.org/10.1111/j.1741-3737.2010.00723.x

Angold, A., Erkanli, A., Silberg, J. Eaves, L., & Costello, E.J. (2002). Depression scale scores in 8-17-year-olds: effects of age and gender. *Journal of Child Psychology and Psychiatry, 43*(8), 1052-1063.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974).The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, 42, 861-865.

Booth, A., & Amato, P. (1991). Divorce and psychological stress. *Journal of Health and Social Behavior, 32*(4), 396-407. doi: http://dx.doi.org/10.2307/2137106

Cann, A., Calhoun, L.G., Tedeschi, R.G., Taku, K., Vishnevsky, T. Triplett, K.N., & Danhauer, S.C. (2010). A short form of the posttraumatic growth inventory. *Anxiety, Stress, & Coping, 23*(2), 127-137.

Clark, A.E., & Georgellis, Y. (2010). Back to baseline in Britain: Adaptation in the BHPS. PSE Working Papers halshs-00564821, HAL. (http://ideas.repec.org/p/hal/psewpa/halshs-00564821.html)

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.

Cummins, R.A. (1998). The second approximation to an international standard of life satisfaction. *Social Indicators Research, 43*, 307-334.

De Jong Gierveld, J., & Kamphuis, F. (1985). The development of a Raschtype Loneliness Scale. *Applied Psychological Measurement*, 9, 289-299.

De Jong Gierveld, J., & Van Tilburg, T.G: (2006). A six-item scale for overall, emotional and social loneliness: confirmatory tests on new survey data. *Research on Aging*, 28, 582-59.

Diener, E., Emmons, R.A., Larsen, R.J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75.

Dillman, D. (2007). Mail and Internet Surveys (2nd ed.). Hoboken, NJ: John Wiley.

Dupre, M. E., Beck, A. N., & Meadows, S. O. (2009). Marital trajectories and mortality among US adults. *American Journal of Epidemiology, 170*(5), 546-555.

Ellis, W. L. (2008). Well-being of marital groups in later life: Are divorced elders disadvantaged? *Marriage & Family Review, 44*(1), 125-139.

Haslam, C., Holme, A., Haslam, S.A., Iyer, A., Jetten, J., & Williams, W.H. (2008). Maintaining group memberships: Social identity continuity predicts well-being after stroke. *Neuropsychological Rehabilitation, 18*(5/6), 671-691.

Hautzinger, M., & Bailer, M. (1993). *Allgemeine Depressions Skala*. Manual. Göttingen: Beltz.

Humbel, A. (2009). *Partnerschaft im mittleren Lebensalter: der Einfluss von Persönlichkeit, Sexualität, Transitionen, gegenseitig gewährten Entwicklungsmöglichkeiten und der sozialen Unterstützung auf die Partnerschaftszufriedenheit und das Wohlbefinden*. Unpublished Master Thesis, University of Bern.

Joseph, S. & Linley, P.A. (2005). Positive adjustment to threatening events. *Review General Psychology*, *9*(3), 262-280.

Klann, N., Halhlweg, K., Limbrid, C., & Snyder, D. (2006). *Einschätzung von parternschaft und Familie. Deutsche Form des Marital Satisfaction Inventory – Revised (MSI-R) von Douglas K. Snyder*. Göttingen: Hogrefe.

Krampen, G. (1994). *Skalen zur Erfassung von Hoffnungslosigkeit (H-Skalen). Deutsche Bearbeitung und Weiterentwicklung der H-Skala von Aaron T. Beck. Handanweisung*. Göttingen: Hogrefe.

Kuh, D., & Ben-Shlomo, Y., (eds.) (2004). *A Life Course Approach to Chronic Disease Epidemiology*. (2nd ed.). New York: Oxford University Press.

Lorenz, F. O., Wickrama, K., Conger, R. D., & Elder, G. H., Jr. (2006). The Short-Term and Decade-Long Effects of Divorce on Women's Midlife Health. *Journal of Health and Social Behavior, 47*(2), 111-125. doi: http://dx.doi.org/10.1177/002214650604700202

Maercker, A., & Langner, R. (2001). Persönliche Reifung (Personal Growth) durch Belastungen und Traumata: Validierung zweier deutschsprachiger Fragebogen. *Diagnostica, 47*(3), 153-162.

Nicolai, J., Demmel, R., & Moshagen, M. (2010). The comprehensive alcohol expectancy questionnaire: Confirmatory factor analysis, scale refinement, and further validation*. Journal of Personality Assessment, 92*(5), 400-409.

Pudrovska, T., & Carr, D. (2008). Psychological adjustment to divorce and widowhood in mid- and later life: Do coping strategies and personality protect against psychological distress? *Advances in Life Course Research, 13*, 283-317.

Radloff, L.S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401.

Rammstedt, B., & John, O.P. (2007). Measuring personality in one minute or less: A 10 item short version of the Big Five Inventory in English and German. *Journal of Research in Personality, 41*, 203-212.

Schumacher, J. (2003). SWLS – Satisfaction with life scale. In J. Schumacher, A. Klaiberg, & E. Braehler (Eds.), *Diagnostische Verfahren zu Lebensqualität und Wohlbefinden* (pp. 305-309). Göttingen: Hogrefe.

Schumacher, J., Leppert, K., Gunzelmann, T., Strauß, B., & Brähler, E. (2005). Die Resilienzskala - Ein Fragebogen zur Erfassung der psychischen Widerstandsfähigkeit als Personmerkmal. Zeitschrift für Klinische Psychologie, Psychiatrie und Psychotherapie, 53(1), 16-39.

Swiss Federal Office of Statistics (Bundesamt für Statistik BFS) (2009). Swiss Health Survey 2007 [German]. Neuchâtel: BFS.

Wagnild, G.M., & Young, H.M. (1993). Development and psychometric evaluation of the Resilience Scale. Journal of Nursing Measurement, 1(2), 165-178.

Whismann, M.A:, Beach, S.R.H., & Snyder, D.K. (2009). Screening for marital and relationship discord. Journal of Family Psychology, 23(2), 247-254.

Appendices

First contact letter for participants

P.P. 3000 Bern 9

«Geschlecht»
«Vorname» «Name»
«Strasse» «Strassennr»
«PLZ» «Ort»

Bern, Februar 2012

Partnerschaft in der zweiten Lebenshälfte - Herausforderungen, Verluste und Gewinne

Einladung zur Teilnahme am Forschungsprojekt

Sehr geehrte «Geschlecht» «Name»

Mit diesem Brief möchten wir Sie zur Teilnahme an einer Studie zu Partnerschaft in der zweiten Lebenshälfte bitten. In dieser Studie soll die Vielfalt der Partnerschaften in der zweiten Lebenshälfte untersucht werden, insbesondere aber auch die damit verbundenen Herausforderungen, Verluste und Entwicklungschancen. Denn obschon die Lebenserwartung stetig steigt, und damit auch die Perspektive einer langen Paarbeziehung, wissen wir in der Tat zum einen recht wenig darüber, was die Gründe dafür sind, dass gewisse Partnerschaften lange halten und andere nicht. Zum anderen fehlt fundiertes Wissen über die genauen Auswirkungen des Verlusts eines Partners/ einer Partnerin - sei es durch Trennung, Scheidung oder durch Verwitwung - auf psychischer, körperlicher und sozialer Ebene. Wir wissen jedoch, dass es grosse individuelle Unterschiede gibt, und genau diese wollen wir hier erfassen.

Bei dieser Langzeitstudie handelt es sich um ein Projekt des Nationalen Forschungsschwerpunkts LIVES - Überwindung der Verletzbarkeit im Verlauf des Lebens. Sie wird finanziert vom Schweizerischen Nationalfonds und wurde von der Ethikkommission der Universität Bern gutgeheissen. Befragt werden Frauen und Männer im Alter zwischen 40 und 90 Jahren aus der deutschsprachigen Schweiz und aus der Romandie. Die Adressen wurden uns vom Bundesamt für Statistik zur Verfügung gestellt, gemäss der Verordnung über die Durchführung von statistischen Erhebungen des Bundes, Artikel 13, da es sich um ein Forschungsvorhaben von nationaler Bedeutung handelt. Sie wurden nach einem Zufallsverfahren ausgewählt, um an dieser Studie teilzunehmen.

Wir möchten Sie hiermit herzlich dazu einladen, den beigelegten Fragebogen auszufüllen. Dieser beinhaltet drei Teile, wovon maximal zwei ausgefüllt werden müssen (je nachdem ob Sie in einer Partnerschaft leben, getrennt/ geschieden oder verwitwet sind). Dadurch hält sich der Zeitaufwand in Grenzen. Sie haben ebenfalls die Möglichkeit, den Fragebogen online unter folgender Internetadresse auszufüllen: http://lives-nccr.ch/limesurvey/?sid=15776.

Da Ihre Teilnahme an dieser Befragung freiwillig ist, wären wir Ihnen umso mehr zu grossem Dank verpflichtet, wenn Sie uns bei dieser Forschungsarbeit unterstützen würden. Ihre Erfahrungen und Ihr Wissen sind für ein fundiertes Verständnis der unterschiedlichen Formen und Prozesse von

Partnerschaftsbiographien in der zweiten Lebenshälfte unerlässlich. Ihre Angaben werden selbstverständlich streng vertraulich behandelt und in anonymisierter Form ausschliesslich für unsere Forschung verwendet. Um Ihre Angaben anonym zu verwenden, wurde Ihnen eine zufällige Zahlenfolge zugeteilt. Diese finden Sie gleich unterhalb dieses Abschnittes. Wir bitten Sie, diese Zahlenfolge auf Seite 1 des Fragebogens zu notieren oder diese im Online-Fragebogen einzugeben, wenn Sie dazu aufgefordert werden.

«Code»

Für Ihre Aufmerksamkeit und Mithilfe danken wir Ihnen ganz herzlich. Für allfällige Fragen zur Studie steht Ihnen Frau Beatrice Rumpel, Psychologin M.Sc., jeweils am Montag, Dienstag, Mittwoch und Freitag von 9 bis 12 Uhr und 14 bis 16 Uhr zur Verfügung, unter der Telefonnummer 031 631 56 38; oder per E-Mail an beatrice.rumpel@psy.unibe.ch.

Freundliche Grüsse

Prof. Dr. Pasqualina Perrig-Chiello

Universität Bern

Projektleiterin NFS LIVES

Prof. Dr. Dario Spini

Universität Lausanne

Direktor NFS LIVES, Co-Projektleiter

*Table A1: Frequency of divorce and bereavement in the **"Stichprobenrahmen für Personen- und Haushaltserhebungen (SRPH)"** registry (period 1.1.07 - 31.12.09)*

	Men			Women		
Age	Married	Divorced	Widowed	Married	Divorced	Widowed
40-44	183984	6835	148	195037	8448	527
45-49	214520	9109	323	209048	10463	1009
50-54	202358	8389	441	190167	8652	1513
55-59	178630	6027	657	162387	5464	2171
60-64	161922	3732	1101	146577	2986	3135
65-69	150488	2231	1504	131688	1748	4625
70-74	114022	869	1783	97144	554	5552
75-79	86742	350	2096	69312	186	7110
80-84	60090	117	2480	42918	55	7461
85-89	30315	38	2176	17398	16	5274
Total	1383071	37697	12709	1261676	38572	38377

Source SFSO

Table A2: Sample supplied by the Federal Office of Statistics, stratified by age and gender

Age	**40-44 (f/m)**	**45-49 (f/m)**	**50-54 (f/m)**	**55-59 (f/m)**	**60-64 (f/m)**	**65-69 (f/m)**	**70-74 (f/m)**	**75-79 (f/m)**	**80-84 (f/m)**	**85-89 (f/m)**	**Total (f/m)**
Married	235/ 204	182/ 198	217/ 184	186/ 186	182/ 215	207/ 180	200/ 197	201/ 200	199/ 185	203/ 212	2012/ 1961
Divorced											
<2 years	-	-	-	-	-	-	-	-	-	-	-
2-5 years	131/ 131	142/ 161	141/ 134	141/ 132	108/ 123	80/ 127	-	-	-	-	743/ 808
Widowed											
<2 years	-	-	-	-	-	-	-	-	-	-	-
2-5 years	-	-	-	-	126/ 61	141/ 83	142/ 99	130/ 97	132/ 122	123/ 109	794/ 571
Total	366/ 335	324/ 359	358/ 318	327/ 318	416/ 399	428/ 390	342/ 296	331/ 297	331/ 307	326/ 321	3549/ 3340
Grand Total											6889

Table A3: Response rates of the SFSO sample by age and gender, in percent.

Age	**40-44 (f/m)**	**45-49 (f/m)**	**50-54 (f/m)**	**55-59 (f/m)**	**60-64 (f/m)**	**65-69 (f/m)**	**70-74 (f/m)**	**75-79 (f/m)**	**80-84 (f/m)**	**85-89 (f/m)**	**Total (f/m)**
Married	29/ 22	32/ 21	32/ 20	29/ 24	29/ 25	35/ 30	37/ 34	26/ 29	23/ 30	17/ 24	29/ 26
Divorced											
<2 years	-	-	-	-	-	-	-	-	-	-	33/
2-5 years	37/ 19	37/ 25	31/ 20	38/ 25	28/ 21	15/ 22	-	-	-	-	23
Widowed											
<2 years	-	-	-	-	-	-	-	-	-	-	-
2-5 years	-	-	-	-	31/ 44	35/ 40	28/ 29	32/ 40	20/ 33	9/ 23	28/ 34
Grand Total											

Table A4: Distribution of the main variables

	N	Miss	Shapiro-Wilk	Skewn.	SE Skewn.	z Skewn.	Kurtosis	SE Kurtosis	z Kurtosis
Depression	2699	62	.000	1.65	.047	35.1	3.35	.094	35.6
Perceived Stress	2693	68	.000	.582	.047	12.4	.189	.094	2.0
Marital Satisf.	1636	1125	.000	.266	.061	4.4	2.741	.121	22.7
Hopelessness	2733	31	.000	.572	.047	12.2	.829	.094	8.8
Social Loneliness	2735	26	.000	.899	.047	19.1	-.809	.094	-8.6
Emotional Loneliness	2705	56	.000	1.390	.047	29.6	.665	.094	7.1
Life satisfaction	2741	20	.000	-1.091	.047	-23.2	1.142	.093	12.3
Resilience	2721	40	.000	-.847	.047	-18.0	1.131	.094	12.0
Extraversion	2729	32	.000	-.079	.047	-1.7	-.823	.094	-8.8
Agreeableness	2715	46	.000	-.385	.047	-8.2	-.148	.094	-1.6
Conscientiousn.	2722	39	.000	-.867	.047	-18.4	.295	.094	3.1
Neuroticism	2707	54	.000	.262	.047	5.6	-.596	.094	-6.3
Openness	2707	54	.000	-.383	.047	-8.1	-.617	.094	-6.6

Note: As the sample is large, absolute z-values above 3.29 are considered significant